SKINNER CREEK ACCOMPLISHMENT REPORT
Caribou-Targhee National Forest Fisheries Program
November 2007

Background

In 2005, Nounan rancher Paul Alleman and his father Kent asked for assistance from the Bear River Environmental Coordinating Committee (ECC). They had a cattle feedlot that the family operated for decades directly on Skinner Creek. It contributed sediment and animal waste directly into the stream so they wanted to relocate it to the uplands, but needed financial help to make it happen. The ECC is a committee of natural resource agencies and organizations with the charge to assist the implementation of their settlement agreement with PacifiCorp for the relicensing of their Bear River hydroelectric dams. The settlement agreement provides funding to benefit Bonneville cutthroat trout in the Bear River and the ECC directs these funds to appropriate projects.

Recognizing the importance of Skinner Creek to Bonneville cutthroat trout conservation, Caribou-Targhee Forest Fisheries Biologist James Capurso, who represents the Forest Service on the ECC, volunteered to be the committee liaison for the original project proposal. While working with the landowner, Capurso identified several other projects that would benefit Bonneville cutthroat trout in Skinner Creek. Within 2 years, with the assistance of many partners, the feedlot was relocated, 2 impassable culverts were corrected, 3 irrigation diversions were screened, and a stream segment was stabilized.

Skinner Creek

Skinner Creek is a tributary to the Bear River in Southeast Idaho, near Nounan (between Soda Springs and Montpelier, ID). In 2001, the C-T National Forest Fisheries Crew performed a fish distribution survey on Skinner Creek and determined it was a Bonneville cutthroat trout stronghold stream. Although the stream was disconnected from the river due to irrigation practices and impassable culverts that excluded upstream-migrating fish, an isolated population of resident cutthroat trout existed on the Forest upstream of private land. Improving the stream on Alleman's property, particularly increasing the safety of migratory fish in this corridor, would benefit Bonneville cutthroat trout on the Forest and in the Bear River. Recent Idaho Department of Fish and Game fish surveys in the Nounan Reach of the Bear River did indicate a high potential of non-native fish colonization in Skinner Creek if access was enhanced.

Feedlot Relocation

In 2005 and 2006, through a partnership with the ECC, Idaho Department of Agriculture, Natural Resources Conservation Service, the Allemans, and the Caribou-Targhee National Forest, the streamside cattle feedlot was relocated to the uplands and the old feedlot location adjacent to Skinner Creek was planted and fenced. The new feedlot facility, designed by Idaho Department of Agriculture, included fencing and uses a well

for a cattle water source. The Natural Resources Conservation Service assisted with the planting of the riparian area.

Skinner Creek resident life history Bonneville cutthroat trout

New feedlot constructed away from Skinner Creek

Pre-project streamside feedlot on Alleman's property

Paul Alleman loading willow clumps onto trailer for transport to planting locations within old feedlot

Paul and Kent Alleman plant willows within old feedlot area along Skinner Creek

Fish Passage at Culverts

In 2007, fish passage was restored at 2 different road crossings; Nounan Road in the lower watershed and FS Road 402 in the upper watershed. The Bear Lake County Road Crew replaced the perched, undersized culvert under Nounan Road in lower Skinner Creek with a concrete bridge. The bridge materials were purchased by the Bear River ECC. The Forest Road Crew replaced an undersized, perched culvert near the mouth of the South Fork of Skinner Creek with a bottomless arch. The new crossing structure was purchased by the Forest Service and the project was designed and supervised by Forest Service Engineers.

Pre-project Nounan Road crossing.

Pre-project South Fork Skinner Ck crossing.

Post-project Nounan Road crossing

Post-project South Fork Skinner Creek crossing

Screens and Bypasses at Irrigation Diversions

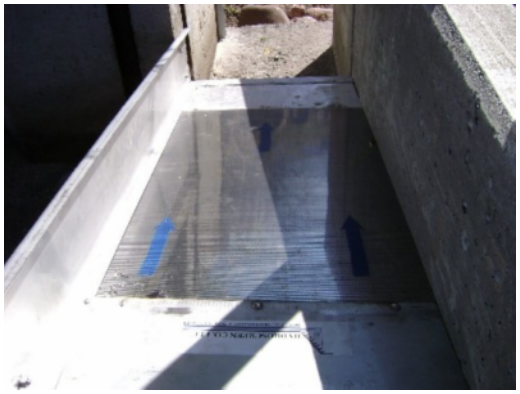
In cooperation with the Allemans, US Bureau of Reclamation, the Bear River ECC, US Fish and Wildlife Service, and the Forest, 4 irrigation diversions were improved on the Alleman's ranch. Migratory fish entrainment and bypass issues were addressed. Downstream of Nounan Road, 2 diversions were combined into one diversion structure. In the combination, one diversion was removed from the Nounan Road right-of-way, improving motorist safety. Upstream of Nounan Road, an irrigation diversion was screened and the bypass was enhanced. An additional irrigation diversion upstream of Nounan Road was realigned but not screened. We believe the realignment will better direct fish moving downstream to remain in the stream channel. We elected not to screen the upper diversion because there is a potential that upstream migrants from neighboring Stauffer Creek could use the irrigation ditch to migrate into Skinner Creek and we did not want to exclude or trap those fish.

The new irrigation diversion structures were designed and constructed by the Bureau of Reclamation. Funding for purchasing materials and construction was provided by the Bear River ECC, US Bureau of Reclamation, US Fish and Wildlife Service, and USDa Forest Service. The fish screens were fixed-plate wedge-wire Coanda screens fabricated by Hydroscreen Inc.

Caribou-Targhee National Forest hydrologists designed and installed rock streambed stabilization structures downstream of the lower irrigation diversion to maintain the grade of the stream. The Bureau of Reclamation construction crew assisted with the building of the structures.

US Bureau of Reclamation Operations Crew smooths concrete at improved irrigation diversion structure below Nounan Road.

Completed double irrigation diversion structure downstream of Nounan Road, including inclined coanda screens.



Coanda screen at the middle diversion. Coanda, or wedgewire, screens shave layers of water off downstream flows and deposits it in the irrigation canal as water washes debris and fish over them.

Rock streambed stabilization structures and willow plantings downstream of lower diversion structure.

Future Considerations

Although this report is considered an accomplishment report, there are some things for future fisheries managers to monitor and consider. They include monitoring the effectiveness of recently completed work, the upper diversion, the irrigation pipeline bypass, and the accelerated residential developments within the watershed.

The installed fish screens, streambed stabilization structures, and willow planting will need to be monitored for effectiveness and adjustments made if necessary. Under the existing water use situation, Skinner Creek should be considered a springtime migratory corridor due to water use in the drainage during the summer irrigation season. The entire stream is periodically diverted into an irrigation pipeline upstream of the Alleman's property in the summer, drying a stream reach downstream. This creates a harsh environment for revegetation of riparian areas, so extra effort may be required to achieve desired riparian vegetation conditions.

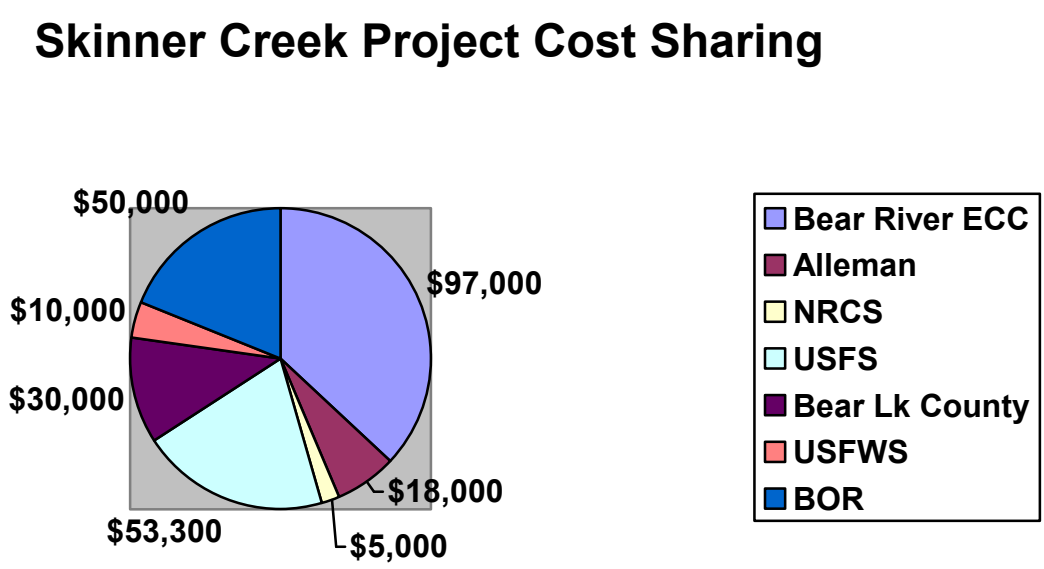
We elected to realign but not screen the upper Alleman diversion. The realignment will help direct fish migration down the mainstem of Skinner Creek during high flows. We didn't want to screen this diversion because we did not want the screen to block any fish that are migrating up the irrigation ditch from Stauffer Creek. The ditch connects to Stauffer Creek a couple miles downstream. This ditch should be monitored to determine the number of fish that move up it from Stauffer Creek and the number and degree of survival of fish that are entrained as they migrate down Skinner Creek.

Capurso has initiated a positive, trusting relationship with the irrigation pipeline board. They would entertain the idea of bypassing their irrigation pipeline intake structure if it is determined necessary to facilitate upstream passage in the future.

Just within the 2 years of the restoration activities in the watershed, there has been significant residential development. It is likely this will continue. It will be necessary to

monitor this activity to protect habitat and the ability of fish to safely migrate up and down the stream and respond with further efforts if warranted.

As an example of residential development impacts upon Skinner Creek, this series of pipes were installed in Skinner Creek to access a new house site. An outreach effort with the landowner resulted in him replacing these culverts with a properly sized, more fish-friendly culvert.



SKINNER CREEK PROJECT AREA MAP